

REMARKS/ARGUMENTS

Reconsideration of the captioned application is respectfully requested.

Claims 1, 3, 23 and 24 stand rejected under 35 USC 102(e) as being anticipated by EP 0923221. All prior art rejections are respectfully traversed for at least the following reasons.

1. The Rejection Should Be Withdrawn To Afford Full Faith and Credit to Earlier Withdrawal of Essentially Same Rejection

EP 0923221 claims the same priority document (GB 9726037) as U.S. Patent 6,477,249 to Williamson et al. The content of EP 0923221 appears to be essentially identical to that of U.S. Patent 6,477,249 to Williamson et al.

U.S. Patent 6,477,249 to Williamson et al. was applied by the US Patent Office in a rejection dated June 22, 2004. Applicant responded to the June 22, 2004 rejection in an request for reconsideration filed October 21, 2004.

In an office action mailed March 17, 2005, the Examiner stated that “Applicants arguments, see pages 9 – 12, filed October 21, 2004, with respect to rejection(s) of claim(s) 1, 3, 23, and 24 under 35 USC §102(e) have been fully considered and are persuasive. Therefore the rejection has been withdrawn”. (A new ground of rejection was formulated in the March 17, 2005 office action).

In view of the withdrawal of the prior art rejections premised upon U.S. Patent 6,477,249 to Williamson et al., it is respectfully requested that the current prior art rejections premised upon the corresponding EP 0923221 be withdrawn as well. The office action should give full faith and credit to its previous determination of patentability of the same claims over a reference of same subject matter. Without prejudice to this full

faith and credit position, Applicant repeats below Applicant's previous technical comments supportive of patentability of the rejected claims over U.S. Patent 6,477,249 to Williamson et al. (the comments being equally applicable to EP 0923221).

2. The Rejection Should Be Withdrawn For Failure of EP 0923221 To Teach or Suggest The Claimed Subject Matter.

Applicant now repeats comments advanced in Applicant's reconsideration filed October 21, 2004. Applicant's repeated comments concerning U.S. Patent 6,477,249 to Williamson et al. are applicable to EP 0923221 as well (both now collectively referred to as "Williamson", but specific citations are made to U.S. Patent 6,477,249 to Williamson et al.).

Applicant's rejected independent claims concern a filter for filtering signals in a telecommunications system, which filter is passive and has a complex characteristic impedance which at least approximately matches a predetermined complex impedance. The filter comprises a resistance which is chosen such that it assists in giving the filter its said complex characteristic impedance.

Applicant reiterates that the resistance of Williamson's filters are not chosen such to provide the filter with said complex characteristic impedance. The Williamson filters clearly comprise inductors and capacitor, which are *reactive components* and give the filter a *resistive characteristic impedance*, not a *complex characteristic impedance*, which include a resistance or resistive element. The Williamson filter comprises a detector and a switching device. As stated in Williamson column 7, lines 47-50, "the detector and switching functions may be combined by using a device that varies in resistance, thereby performing a switching function, in response to some property of the telephony traffic."

In column 6, lines 1 - 9, Williamson points out that

Ideally the filter is perfectly matched with the transmission line and terminal equipment to which it is coupled, and therefore does not reflect power. A poor filter return loss causes echoes on the line, which can be distracting to a subscriber, and also causes a change in the sidetone level heard by a subscriber, i.e. the amount by which a person hears their own voice when involved in a telephone conversation.

Further, Williamson states that

"because the transmission line is not lossless at voice band frequencies, the characteristic impedance of transmission lines and terminal equipment is complex so that a good return loss the termination impedance needs to match this and thus also needs to be complex (see column 6, lines 31-35).

With Williamson's statements as quoted in the preceding paragraph in mind, note specifically the embodiments in Fig. 8-13 in Williamson:

- Fig. 10 shows current against voltage, and further shows the performance of the non-linear element (NLE) in the filter illustrated in Fig. 8. Above a certain threshold voltage the current increases sharply due to the fact that the resistance of the NLE decreases to zero and the NLE (transistor or thyristor) will operate in its fully conducting mode, and under the threshold voltage the current decreases to zero due to the fact that the resistance of the NLE will increase to infinity and the NLE will operate in its non-conducting mode, i.e. switch from conducting (on) to interruption (off). The effect of the NLE is that for low amplitude signals, such as speech, the NLE has a high resistance and therefore capacitor C2 is not active. With high amplitude signals, such as POTS loop-disconnecting signalling, the NLE has a low resistance and therefore the capacitor C2 is active and forms a part of the low-pass filter.

- Williamson Fig. 9A shows the equivalent circuit for the low-pass filter with low amplitude signals, with only inductor L and capacitor C1 in use.
- Fig. 9B shows the equivalent circuit for the low-pass filter with high amplitude signals, with inductor L and capacitors C1 and C2 in operation in parallel thus reducing the cut-off frequency of the filter.
- The embodiment showed in Williamson Fig. 11 illustrates a filter switching between a low-order filter and an high-order filter by means of the NLE, which will switch between low-resistance (i.e. the resistance is neglectable) and high-resistance (i.e. cut-off).
- In the Williamson embodiments of Figs. 12 and 13 respectively, a switch is used instead of a NLE. It is obvious that during speech (low amplitude signals), the Williamson filter does not involve the capacitor C2 (C1 in Fig. 13) because no current will flow through the capacitor C2 (C1 in Fig 13) due to the switching element, a switch or a NLE, is operated in its interruption state.
- In Williamson Fig. 9A, the equivalent circuit for the speech mode is illustrated and NO RESISTANCE is present.

Therefore, the Williamson filter does not have a complex characteristic impedance during speech mode, which is a very important difference in comparison to independent claim 1. Further, as stated above, if the termination impedance is not complex the impedance match is not good, resulting in that the return loss is poor causing echoes on the line which can be distracting to a subscriber. In Williamson Fig. 9B, the equivalent circuit for the signalling mode is illustrated and NO RESISTANCE is present in the circuit. If the resistance of the NLE had been important for accomplishing complex

impedance, the equivalent circuits of Williamson Figs. 9A and 9B would have been provided with resistors. However, in the alternate circuits shown in Williamson Figs. 12 and 13, the NLE is replaced by a switch. Even though Williamson teaches the use of elements having resistance, it is not suggested by Williamson that the resistance is chosen for matching purpose of a complex characteristic impedance.

Thus, Applicant vigorously maintains that the rejected claims patentably differ from what is taught by Williamson et al., and that Williamson does not form any basis for denying patentability of Applicant's claims.

3. Further Comments

The filter of EP 0923221 and U.S. Patent 6,477,249 to Williamson et al. comprises a detector and a switching device. As stated in paragraph [0043] of EP 0923221, "the detector and switching functions may be combined by using a device that varies in resistance, thereby performing a switching function, in response to some property of the telephony traffic." Applicant's independent claim 1 does not involve any variation in resistance as the resistor resistance is chosen and fixed, and further, Applicant's independent claim 1 does not involve any switching function in response to some property of the telephony traffic.

All claims are deemed in condition for allowance. A formal indication of allowability is earnestly solicited.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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